

## **REMARKS**

Applicants respectfully request reconsideration of the present application. Claims 1, 11, 19, 30-31, 33, and 36 have been amended herein. Care has been exercised to introduce no new matter. Claims 1, 5, 7-8, 10-13, 16, 18-19, 24-25, 27-28, and 30-53 are pending and are believed to be in condition for allowance.

### **Rejections based on 35 U.S.C. § 103**

#### A) Applicable Authority

Title 35 U.S.C. § 103(a) declares, a patent shall not issue when “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” The Supreme Court in *Graham v. John Deere* counseled that an obviousness determination is made by identifying: the scope and content of the prior art; the level of ordinary skill in the prior art; the differences between the claimed invention and prior art references; and secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1 (1966). To support a finding of obviousness, the initial burden is on the Office to apply the framework outlined in *Graham* and to provide some reason—suggestions or motivations—found either in the prior art references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the prior art reference or to combine prior art reference teachings to produce the claimed invention. See *Application of Bergel*, 292 F.2d 955, 956-957 (CCPA 1961).

B) Applicants’ obviousness rejection remarks concerning gestures and gesture images causing execution of a user command.

The gestures of Kanevsky are basically access codes to identify a person. In contrast, Applicants' claimed gestures cause or effect execution of a user command. As an example for illustrative purposes only, a specific gesture of Kanevsky will simply identify a particular person associated with that specific gesture. In contrast, a specific gesture of Applicants' claimed invention will actually execute a user command, such as closing a file or flipping through a document. Kanevsky (6,421,453) is directed to "user recognition (classification/identification/verification) to grant access or service to authorized users ... employing gesture recognition, speaker recognition, and additional biometric and/or non-biometric features" (*see Kanevsky*, col. 1, ln. 7-13). Kanevsky gives several embodiments, which are directed to "comparing the pre-stored sequences of intentional gestures to the extracted sequence of intentional gestures *to recognize the individual*" (*Id.*, col. 3, ln. 28-38). Similar embodiments are directed to comparing pre-stored gestures to extracted gestures in order *to recognize an individual* (*Id.*, col. 3, ln. 39 – col. 4, ln. 13). In contrast, Applicants' claimed gestures cause the actual execution of the associated user commands.

C) Obviousness Rejections Based on U.S. Patent No. 6, 421, 453 (Kanevsky) in view of U.S. Patent No. 6,147,678 (Kumar). The prior art of record does not describe or suggest amended independent claim 1.

Claims 1, 5, 10, 39-44, 53 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky in view of Kumar. The prior art of record does not describe or suggest all of the recited features of amended independent claim 1 for the following reasons.

The prior art of Kanevsky does not describe the claimed feature of interpreting the gesture image to execute the user command for control of the computer system, as described above under Section B. In addition, independent claim 1 has been amended to further recite that

the gesture image causes execution of the user command by the computer system. Kumar is directed to a system and method of interpreting 3-D gestures (col. 14, ln. 7 – col. 18, ln. 40), but Kumar is silent as to implementing said gestures as a direct computer execution and therefore, does not compensate for the deficiencies of Kanevsky in describing or suggesting amended independent claim 1. Therefore, amended independent claim 1 is allowable over the prior art of record, as are dependent claims 5, 10, 39-44, and 53. Applicants respectfully request withdrawal of said rejection and allowance of claims 1, 5, 10, 39-44, and 53.

D) Obviousness Rejections Based on U.S. Patent No. 6, 421, 453 (Kanevsky) in view of U.S. Patent No. 5,801,704 (Oohara). The prior art of record does not describe or suggest amended independent claim 11.

Claims 11-13, 16, 18, 45-51 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky in view of Oohara. The prior art of record does not describe or suggest all of the recited features of amended independent claim 11 for the following reasons.

The prior art of Kanevsky does not describe the claimed feature of interpreting the gesture image to control the computer system, as described above under Section B. In addition, independent claim 11 has been amended to further recite that the gesture image effects execution of the user command by the computer system. Oohara vaguely describes a 3-D image processing of an object using an operating cursor (*see Oohara*, col.2 ln. 18-38), but Oohara is silent regarding implementing the processed object as a direct executable user command to effect control of a computer system. Oohara does not compensate for the deficiencies of Kanevsky in describing or suggesting amended independent claim 11. Therefore, Applicants respectfully request withdrawal of said rejection and allowance of amended independent claim 11, as well as dependent claims 12-13, 16, 18, and 45-51.

E) Obviousness Rejections Based on U.S. Patent No. 6, 421, 453 (Kanevsky) in view of U.S. Patent No. 7,225,414 (Sharma) and U.S. Patent No. 7,394,346 (Bodin). The prior art of record does not describe or suggest amended independent claims 19, 30, and 33.

Claims 19, 25, 30-33, 52 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky in view of Sharma and Bodin. The prior art of record does not describe or suggest all of the recited features of amended independent claims 19, 30, and 33 for the following reasons.

Amended independent claim 19 is now patentable because the prior art of Kanevsky does not describe or suggest executing a user command to effect manipulation of an object of the computer, which was previously eluded to under Section B above. In addition, independent claim 19 has been amended to also recite, “predicting a next position of the gesture to form a second 3-D gesture image via a position prediction algorithm.” The prior art of Sharma and Bodin are silent regarding predicting a next position of a gesture to form a second 3-D gesture image and/or a position prediction algorithm. Neither Sharma nor Bodin compensate for the deficiencies of Kanevsky in describing or suggesting the above discussed elements of amended independent claim 19. Therefore, amended independent claim 19, as well as dependent claims 25 and 52, are in allowable condition over the prior art of record.

Amended independent claim 30 is now patentable because the prior art of Kanevsky does not describe interpreting 3-D renderings of gestures to retrieve associated user commands, as eluded to above under Section B. In addition, the prior art of Sharma and Bodin are silent regarding a roaming engagement volume. Sharma may describe multiple engaging volumes (*see Sharma*, col. 6, ln. 31-49), but the *user moves* through each *stationary engagement volume*, as opposed to a moveable or roaming engagement volume. Bodin may describe a

moveable device (*see Bodin*, col. 2, ln. 10-22), but the engagement volume is not moving or roaming. Neither Sharma nor Bodin compensate for the deficiencies of Kanevsky in describing or suggesting all of the above cited elements of amended independent claim 30. Therefore, amended independent claim 30, as well as dependent claims 31-32 are in allowable condition over the prior art of record.

Independent claim 33 has been amended to recite, “wherein each of the received gestures causes execution of the associated different commands,” which was eluded to above under Section B. The prior art of Kanevsky, Sharma, and Bodin, either alone or in any combination do not describe or suggest all elements of amended independent claim 33, thereby placing amended independent claim 33 in allowable condition. Therefore, Applicants respectfully request withdrawal of said rejection and allowance of claims 19, 25, 30-33, and 52.

F) Obviousness Rejections Based on U.S. Patent No. 6, 421, 453 (Kanevsky) in view of U.S. Patent No. 7,225,414 (Sharma), U.S. Patent No. 7,394,346 (Bodin), and U.S. Patent No. 5,801,704 (Oohara). Oohara does not compensate for the deficiencies of Kanevsky, Sharma, and Bodin.

Claims 24, 27, 28, and 34 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky in view of Sharma and Bodin, and further in view of Oohara. Applicants respectfully traverse said rejection for the following reasons.

Claims 24, 27, and 28 depend from amended independent claim 19, and claim 34 depends from amended independent claim 33, where amended independent claims 19 and 33 were previously shown to be allowable over the prior art of Kanevsky, Sharma, and Bodin. Oohara vaguely describes a 3-D image processing of an object using an operating cursor (*see Oohara*, col. 2, ln. 18-38), but Oohara does not compensate for the deficiencies of Kanevsky,

Sharma, and Bodin in describing or suggesting the above described elements of amended independent claims 19 and 33. Therefore, claims 24, 27, 28, and 34 are allowable over the prior art of record, and Applicants respectfully request withdrawal of said rejection and allowance of claims 24, 27, 28, and 34.

G) Obviousness Rejections Based on U.S. Patent No. 6, 421, 453 (Kanevsky) in view of U.S. Patent No. 7,225,414 (Sharma), U.S. Patent No. 7,394,346 (Bodin), and U.S. Patent No. 6,750,848 (Pryor). Pryor does not compensate for the deficiencies of Kanevsky, Sharma, and Bodin.

Claim 35 was rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky in view of Sharma and Bodin, and further in view of Pryor. Applicants respectfully traverse said rejection for the following reasons.

Claim 35 depends from amended independent claim 33, which was previously shown to be allowable over the prior art of Kanevsky, Sharma, and Bodin. Pryor may describe monitoring an area of interest (col. 5, ln. 40-54), but does not compensate for the deficiencies of Kanevsky, Sharma, and Bodin in describing or suggesting the above described elements of amended independent claim 33. Therefore, Applicants respectfully request withdrawal of said rejection and allowance of claim 35.

H) Obviousness Rejections Based on U.S. Patent No. 6, 421, 453 (Kanevsky) in view of U.S. Patent No. 7,227,526 (Hildreth). The prior art of record does not describe or suggest amended independent claim 36.

Claims 36-38 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky in view of Hildreth. The prior art of record does not describe or suggest amended independent claim 36 for the following reasons.

Independent claim 36 has been amended to recite, “means for tracking multiple objects and multiple persons within an engagement volume of the system.” Kanevsky fails to describe controlling a computer based on gestures, and also does not describe or suggest allowing each user of a system to associate individual gestures with specific commands that control the computer system, as discussed above under Section B. The Office alleges that Hildreth describes a hand region used to capture commands, but Hildreth does not compensate for the deficiencies of Kanevsky in describing or suggesting the above described elements of amended independent claim 36. Therefore, amended independent claim 36, as well as dependent claims 37 and 38 are in allowable condition over the prior art of record. Therefore, Applicants respectfully request withdrawal of said rejection and allowance of claims 36-38.

I) Obviousness Rejections Based on U.S. Patent No. 6, 421, 453 (Kanevsky) in view of U.S. Patent No. 6,147,678 (Kumar) and U.S. Patent No. 6,111,580 (Kazama). Kazama does not compensate for the deficiencies of Kanevsky and Kumar.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky in view of Kumar and Kazama. Applicants respectfully traverse said rejection for the following reasons.

Claim 7 depends from amended independent claim 1, which was previously shown to be allowable over the prior art of Kanevsky and Kumar. Kazama does not compensate for the deficiencies of Kanevsky and Kumar in describing or suggesting the above described elements of amended independent claim 1, thereby placing dependent claim 7 in allowable condition over the prior art of record. Therefore, Applicants respectfully request withdrawal of said rejection and allowance of claim 7.

J) Obviousness Rejections Based on U.S. Patent No. 6, 421, 453 (Kanevsky) in view of U.S. Patent No. 6,147,678 (Kumar) and U.S. Patent No. 7,007,263 (Dempski). Dempki does not compensate for the deficiencies of Kanevsky and Kumar.

Claim 8 was rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky in view of Kumar, and further in view of Dempski. Applicants respectfully traverse said rejection for the following reasons.

Claim 8 depends from amended independent claim 1, which was previously shown to be allowable over the prior art of Kanevsky and Kumar. Dempski does not compensate for the deficiencies of Kanevsky and Kumar in describing or suggesting the above described elements of amended independent claim 1, thereby placing dependent claim 8 in allowable condition over the prior art of record. Therefore, Applicants respectfully request withdrawal of said rejection and allowance of claim 8.



### **CONCLUSION**

For at least the reasons stated above, claims 1, 5, 7-8, 10-13, 16, 18-19, 24-25, 27-28, and 30-53 are now believed to be in condition for allowance. Applicants respectfully request withdrawal of the pending rejections and allowance of the claims. If any issues remain that would prevent issuance of this application, the Examiner is urged to contact the undersigned – 202-783-8400 or [nberezny@shb.com](mailto:nberezny@shb.com) (such communication via email is herein expressly granted) – to resolve the same.

It is believed that no fee is due. However, if that belief is in error, the Commissioner is hereby authorized to charge any amount required to Deposit Account No. 19-2112 with reference to Attorney Docket Number 303183.02/MFCP.155220.

Respectfully submitted,

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